

pp. 159-89; Poulantzas, *Political Power and Social Classes*; and Gramsci, op. cit.

150. This is not entirely true. Braverman does refer at one point to the 'insoluble contradiction that exists between the development of the means of production and the social relations of production that characterize capitalism'. But even here he is referring more to capitalism's irrationalities than to a concrete analysis of its dynamics. At one point he asserts the tendency for productive labour to decline, but he does not draw any implications (pp. 280, 423; see also pp. 206, 282). Interestingly, however, he makes no reference to Baran and Sweezy's use in *Monopoly Capital* of productive and unproductive labour as a 'critical' concept.

151. Failure to examine the conditions of domination outside the very broad parameters of capitalist relations of production leads not only in the direction of unjustified pessimism but also, in conjunctures of social ferment, to equally unjustified optimism. Movement between these polarities signifies an inability to link appearances to their underlying forces or a tendency to mistake the former for the latter. What other implications can be drawn from the adoption of one or the other totality? In a critical examination of Aronowitz's *False Promises*, which in many ways parallels my own treatment of Braverman, Jean Cohen suggests that the formulation of an expressive totality 'logically leads to conclusions that (Aronowitz) abhors — the necessity of a party' ('False Promises', *Telos*, no. 24, Summer 1975, p. 138). In this Cohen is, of course, drawing parallels with Lukács. Inasmuch as Braverman holds to the proletariat as the only revolutionary subject, Cohen's argument presumably applies to him as well. As regards the structured totality, it has been linked by some to the dangers of scientism and Stalinism. But again, by itself, without the importation of certain political premisses, it has no unambiguous ideological implications.

152. Braverman, of course, does postulate the conditions of the dominance of capital in the continued existence of capitalist social relations (p. 22). To be sure, this is a definite advance over 'traditional theory', but it does not help us explore how that dominance might end.

153. Gramsci, p. 158.

154. The three realms of the production process are of course the economic, political and ideological, which include the political and ideological aspects of work as such, as well as the political and ideological apparatuses of production which regulate struggle.

155. Gramsci, pp. 302-3.

156. *Ibid.*, p. 285. Gramsci unfortunately ignores the importance of slavery and the persistent heritage of racism it instigated — although it can be argued that racism has contributed to rather than retarded the accumulation of capital.

157. *Ibid.*, pp. 285-86.

158. The following discussion draws on Ronald Dore's *British Factory—Japanese Factory*, Berkeley 1973, and on ideas thrown out by David Brody in a seminar he gave at Berkeley. See also Brody, 'The Rise and Decline of Welfare Capitalism', in J. Braeman, R. Bremner and David Brody, eds., *Change and Continuity in Twentieth-Century America: The 1920s*, Columbus, Ohio 1968.

159. This is not to say that there are no distinctions among the labour processes and conditions of work in the different sectors of the British economy, but that they are less pronounced. In his comparison of two British firms, a garment factory in the competitive sector and a transformer company in the monopoly sector, Tom Lupton suggests that the differences in the labour process may in part be attributed to the market contexts of the two firms.

160. Gramsci, p. 173.

Karl Marx and the Satanic Mills

This chapter seeks to resolve a historical anomaly by unravelling a theoretical paradox. The anomaly is the commonplace observation that in England, where Marx anticipated the outbreak of the first socialist revolution, the working class proved to be reformist in its political impulses, whereas in Russia, whose backwardness was supposed to delay the transcendence of capitalism, the working class proved to be the most revolutionary.¹ Although there have been many attempts to explain the anomaly within a Marxist framework, they have generally suffered from one of two shortcomings: either they have dwelt on the peculiarities of England or Russia, instead of providing a single framework which would explain both working-class reformism in the one and the spread of revolutionary momentum in the other; or they have lost sight of the centrality of the process of production in shaping the character of the working class. In this chapter I try to address both shortcomings by linking the historical anomaly to a theoretical paradox: that for Marx, capitalist production is both the spring of class struggle and an arena of undisputed domination of labour by capital.²

In *The Communist Manifesto* Marx and Engels write: 'The advance of industry, whose involuntary promoter is the bourgeoisie, replaces the isolation of the labourers, due to competition, by their revolutionary combination, due to association.' 'This organization of the proletarians into a class, and consequently into a political party, is continually being upset again by the competition between the workers themselves. But it ever rises up again, stronger, firmer, mightier.'³ And in *Capital* Marx writes: 'Along with the constant decrease in the number of capitalist magnates, who usurp and monopolize all the advantages of this process of transformation, the mass of misery, oppression, slavery, degradation and exploitation grows; but with this there also grows the revolt of the working class, a class constantly increasing in numbers, and trained, united and organized by the very

mechanism of the capitalist process of production.⁴

But how does one get from one to the other — from competition, isolation, misery, oppression, slavery and exploitation to combination, association and struggle? This question cannot be passed over with a dialectical sleight of hand or dismissed as a Hegelian contamination.

There are four frequently encountered resolutions of this paradox. The first imputes to the working class a historic mission to overthrow capitalism, based on the degradation it experiences and the universal interests it carries. Here class struggle is ubiquitous, a primordial given and the prime mover of history. Whereas this resolution pushes aside the reality of domination and fragmentation as transient and superficial phenomena, a second resolution makes these factors central. Here the working class must wait for the inexorable laws of capitalism to precipitate the final catastrophe, at which point the transition to socialism is automatic. This is history without a subject. Neither of these is a serious solution, since both deny the paradox by suppressing one of its terms — in the first case the demobilizing effect of capitalist production, and in the second the appearance of the working class as a historical actor.

More sophisticated resolutions argue that neither is the working class inherently revolutionary nor is capitalism necessarily doomed by some immanent logic. Hence an external force must bring enlightenment to the working class. In its most orthodox version, this force is the unified and unifying vanguard party. Here the working class is prevented from becoming conscious of its revolutionary goal by the corrosive effects of the dominant ideology. The party intervenes to demystify that ideology, holding up a mirror to the working class so that it recognizes itself as a heroic actor. This presumes too much about the readiness of the working class to change its self-conception. Working-class consciousness does not drift with the prevailing ideological winds, but is firmly anchored in the process of production. This solution is also flawed as an interpretation of history. According to many Marxist and non-Marxist historians, the Russian revolution is the *locus classicus* of such an external agency. Recent social history sheds much doubt on this interpretation: the Bolshevik Party in 1917 was not the monolithic entity it was to become; instead, its success lay in its disunity, heterogeneity, and responsiveness to the indigenous impulses, militancy and grievances of a turbulent working class.⁵

Social historians have therefore turned to the sources of that turbulence in the totality of working-class experiences within and outside production. They offer a fourth bridge from domination to

resistance, which distinguishes the capitalist mode of production from the capitalist system,⁶ the logic of capital from capitalism.⁷ Beyond the arena of production are institutions such as the family, the church, the neighbourhood, the pub, the friendly society and the political club, which provide the organizational resources for economic subordination to be turned into political struggle. Cultural, political and communal legacies from the pre-industrial era provide the clay out of which workers mould themselves into a class.⁸

As Calhoun⁹ has argued with respect to Thompson's study (and as could be argued with respect to the others), the emergence of community and tradition as bastions of resistance was closely bound up with threats to production and to the control exercised by the direct producer. Bonnell has argued that where such craft or communal traditions are weak, as in Russia, the workshop itself becomes the citadel of resistance.¹⁰ In each case we are thrown back to the workplace as a critical determinant of working-class struggle. This is, of course, explicitly recognized in many studies of factory production. Shorter and Tilly as well as Hanagan link the character of strikes and political mobilization in France to work organization and its transformation; Moore discovers the roots of rebellion in the violation of the contractual order between managers and workers; Foster ties the rise and fall of working-class radicalism in Oldham to the crises facing the cotton industry and to changes in the productive process; Montgomery unveils the workplace as a fund of resources with which American workers resisted managerial domination.¹¹

While all these works recognize that production had ideological and political as well as economic consequences, this insight is too often buried in a search for the totality of working-class experiences. With some notable exceptions, social historians have sought to expand rather than contract the arenas shaping working-class struggles. In this chapter an attempt will be made to theorize the *centrality of production*, which underlies many of their studies. We shall distinguish the *labour process*, conceived as the coordinated set of activities and relations involved in the transformation of raw materials into useful products, from the *political apparatuses of production*, understood as the institutions that regulate and shape struggles in the workplace — struggles which I call the 'politics of production'. *Factory regime* refers to the overall political form of production, including both the political effects of the labour process and the political apparatuses of production. Marx himself was not unaware of these distinctions. But he failed to thematize the way that factory regimes shape interests and capacities, thereby linking domination to struggle, and the possibility

that changes in the factory regime may occur independently of changes in the labour process. By returning to the scene of Marx's own analysis — the Lancashire cotton industry in the nineteenth century — we shall see that Marx's prototypical form of factory regime, market despotism, was not only rare but also inimical to the development of working-class struggles. Instead we discover different types of regime within the textile industry of early capitalism: the company state and patriarchal and paternalistic regimes in Lancashire; paternalism and market despotism in New England; and the company state in Russia.

Our first task, then, will be to examine the conditions of existence of different types of factory regimes, focusing on four main factors: the labour process, market competition among firms, the reproduction of labour power, and state intervention. The second and more difficult task will be to isolate the effect of factory regimes on struggles. It will be argued that variations in factory regime are *sufficient* to explain both working-class reformism in England and a revolutionary movement in Russia. Other factors enter the analysis only as determinants of factory regimes. This is not to say that the only effects of these other factors on struggles are indirect, mediated by production regimes, but rather that an account of their direct effects is not *necessary* to an understanding of the divergent trajectories of the two labour movements.

1. Marx's Prototype: Market Despotism

Marx and Engels had a definite notion of the emerging form of social regulation in modern industry. Marx describes the factory regime in the most advanced industry of his time, the textile industry, as follows:

In the factory code, the capitalist formulates his autocratic power over his workers like a private legislator, and purely as an emanation of his own will, unaccompanied by either that division of responsibility otherwise so much approved of by the bourgeoisie, or the still more approved representative system. This code is merely the capitalist caricature of the social regulation of the labour process which becomes necessary in cooperation on a large scale and in the employment in common of instruments of labour, and especially of machinery. The overseer's book of penalties replaces the slave-driver's lash. All punishments naturally resolve themselves into fines and deductions from wages, and the law-giving talent of the factory Lycurgus so arranges matters that a violation of his laws is, if possible, more profitable to him than the keeping of them.¹²

This despotic regime of factory politics is considered the only one compatible with the exigencies of capitalist development. It is the counterpart within production of the market pressures which compel capitalists, on pain of extinction, to compete with one another through the introduction of new technology and the intensification of work. Anarchy in the market leads to despotism in production; the market is constitutive of the apparatuses of production, and we call this regime 'market despotism'.

Competition among firms is only the first of four conditions of existence of market despotism. The second condition is the real subordination of workers to capital, the separation of conception from execution. Marx recognized different forms of subordination in his delineation of three stages in the development of industrial production.¹³ In the first, handicraft production, workers control and own the instruments of production but are subject to exploitation by merchants and to competition from ever more productive factories. In the second stage, the formal subsumption of labour to capital, workers are brought together under a single roof, retain control over the labour process, but no longer own the means of production, which are now the property of capital. This phase of wage labour gives way to the real subsumption of labour when workers lose control of the labour process. The worker is transformed from a subjective into an objective element of production.

The lifelong speciality of handling the same tool now becomes the lifelong speciality of serving the same machine. Machinery is misused in order to transform the worker, from his very childhood, into a part of a specialized machine. In this way, not only are the expenses necessary for his reproduction considerably lessened, but at the same time his helpless dependence upon the factory as a whole, and therefore upon the capitalist, is rendered complete.¹⁴

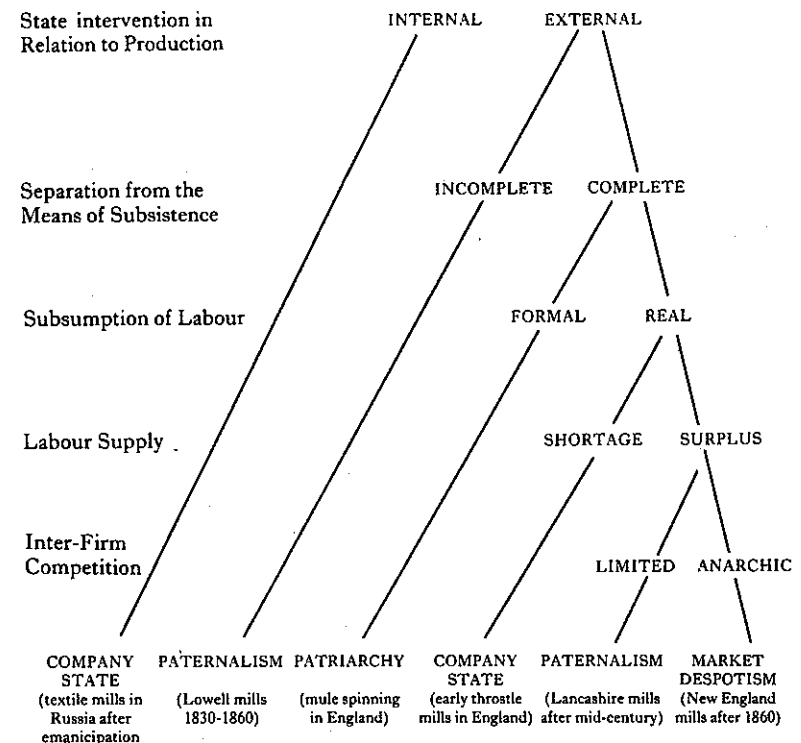
Here is the third condition of market despotism: the worker's dependence on the employer, on the sale of labour power for a wage. This presupposes that workers are completely expropriated of the means of their subsistence. Dependence on a particular capitalist is consolidated by a reservoir of surplus labour. Marx examined this process of 'primitive accumulation' in some detail for England, but too easily assumed that complete expropriation would become the norm for all capitalist societies. Finally, Marx also took for granted — and this is the fourth condition of market despotism — that the state would preserve only the *external* conditions of production (conditions for the autonomous working of market forces); and, in particular, that it

would not directly regulate either relations among capitalists or the process of production and its apparatuses. On examination, however, not only are these third and fourth conditions problematic, but their variation is crucial to the determination of factory regimes.

As Marx recognized, market despotism effectively undermined working-class resistance to managerial domination. 'The organization of the capitalist process of production, once it is fully developed, breaks down all resistance. The constant generation of a relative surplus population keeps the law of the supply and demand of labour, and therefore wages, within narrow limits which correspond to capital's valorization requirements. The silent compulsion of economic relations sets the seal on the domination of the capitalist over the worker'.¹⁵ How then can we explain the militant struggles of cotton operatives, particularly during the first half of the nineteenth century when textiles were the most advanced industry? The answer is simple: we find other factory regimes more conducive than market despotism to the development of struggles.

The four conditions of market despotism are rarely realized simultaneously. By treating them as four variables we can illuminate their independent effects on the form of factory regime via a succession of comparisons. The first comparison, that of throstle spinning and mule spinning in Lancashire, underlines the importance of the labour process for the factory regime. Real subsumption of labour in the former is associated with the company state, whereas formal subsumption in the latter is associated with patriarchal despotism. The second comparison, that of the power-driven mule and the self-acting mule, shows the importance of both the labour process and competition among firms for the transition from patriarchal to paternalistic regimes. The third comparison, between paternalism and market despotism in the New England mills, provides evidence of the importance of separation from the means of subsistence, whereas the fourth comparative study, dealing with Russia, adds the factor of state intervention to the model. Our independent variables can be arranged in a causal hierarchy (see figure 1), so that the first two (market forces and labour process) operate within limits defined by the second two (separation from the means of subsistence and state intervention). The model is obviously crude. It cannot explain all the variations in regimes, but it does highlight the critical factors determining the breakdown and transformation of factory politics.

Fig. 1 HIERARCHY OF DETERMINANTS OF FACTORY REGIMES IN THE EARLY COTTON INDUSTRIES



2. Lancashire: From Company State to Patriarchy

At the heart of the industrial revolution lay the transformation of cotton textile manufacturing. After 1760 the flying shuttle was introduced into weaving, stimulating the demand for yarn. Until the middle of the eighteenth century spinning had been a slow and laborious process using spindle and distaff and sometimes the spinning wheel. The adoption of the jenny in the 1770s permitted a single operator to spin simultaneously on a number of spindles. These technological innovations did not transform the division of labour in domestic production. The jenny could be used in the home, although

as the number of spindles increased it had to be harnessed to water power and a few jenny factories emerged. Although the jenny multiplied the power of human hands, 'the grip of the human hand and the drawing of the human arm were still essential.'¹⁶ Arkwright's water frame, also known as the throstle, worked on an entirely new principle. Instead of the human hand, two sets of rollers would draw out the cotton roving, which was then continuously and simultaneously twisted and wound on a bobbin. It was the first automatic spinning machine, but it required more than human power to drive it and was often built in rural areas with access to streams. 'The water-frame was a substitute for human skill,' Chapman tells us. It, 'therefore, summoned into the cotton industry a lower class of labour . . . but it cannot be said to have displaced skilled cotton spinners in any appreciable degree, since it was confined chiefly to the production of warps which had previously been made of linen or wool.'¹⁷

Operatives were usually women or children: 'Masters often hired the head of family, however, for road-making, bridge-building, or plant construction while employing the wife and children in the mill.'¹⁸ It was to these early mills that pauper apprentices were recruited, particularly around the turn of the century. They were less likely to be used where family labour was available, although they did not present employers with the problems associated with adult males. In any event the importance of the pauper apprentices has been exaggerated; they never formed more than a third of the labour force at any of the mills, and they were phased out in the early years of the nineteenth century.¹⁹

The real subsumption of labour in the factory, where managers controlled the speed of machinery and operatives were machine tenders, laid the basis for domination of the community by the mill owner. Through their control of housing, provisions, company stores, education and religion, masters were able to consolidate their rule in all spheres of life. Smelser distinguishes two types of early water-frame factory: 'those run by brutal, heartless capitalists who flogged their employees, especially the apprentices; and those run as "model" communities by humanitarian masters.'²⁰ The factory village became a state within a state, or what I call a 'company state', with its own coercive apparatuses. 'If we add to this economic and political power of the employer his power over education, housing and the like, it will be clear why management of a factory or mine might come to mean government of a whole community.'²¹ The company state went beyond market despotism to intervene coercively in the reproduction of labour power, binding community to factory through non-market as well as market ties.

In England the water frame soon gave way to mule spinning, which was more efficient and provided the finer thread for weft.²² The mule combined the principles of the jenny and the water frame — that is, roller drafting plus simultaneous stretching, twisting and winding which required the application of considerable skill and effort by the operator. The early mules, however, could be used in the home with human power. When the mule was brought into the factory and harnessed to non-human power, factory owners adapted the domestic organization of production to their own needs. They recruited adult male spinners who were paid by the piece and who in turn recruited their own helpers — women and children, often from their own families. Under this inside contracting arrangement, the master handed over responsibility for supervision and work organisation to the spinner. Thus, there were relatively few overseers in the mule factories compared with water-frame factories.²³ The system of payment was also different. In the mule factories, helpers (piecers and scavengers) were paid a fixed wage, while the contractor (spinner) was paid by the piece; the harder the latter drove the former, the greater were his dividends. Moreover, pressure from employers in the form of rate cutting could be passed on to helpers as the intensification of effort. In the throstle factory, because production was so completely controlled by management, operatives were paid an hourly rather than a piece wage.²⁴

Whereas the real subsumption of labour in the throstle factory laid the basis of the company state, the formal subsumption of labour in the mule factory established the conditions for a patriarchal regime. Here production apparatuses were based on, or imitative of, the domination of the father over other members of the family. More specifically, the patriarchal regime involved a collaboration between subcontractor and employer, so that the former offered and organized the labour of the family or proto-family in exchange for wages and support of the autonomous domination of the patriarch over the women and children who assisted him. It is as if capital said to the patriarch: 'You will keep your people within the rules conforming to our requirements, in return for which you can use them as you see fit, and if they go against your injunctions, we will furnish you with support necessary to bring them back to order.'²⁵

From the point of view of the cotton masters, patriarchal apparatuses of production had the advantage of containing struggles between the subcontractor and his helpers by relying on family bonds and by holding out to male helpers the possibility that they would one day become spinners. At the same time, there is no evidence to suggest that concern for his own or other children inhibited the

spinner from sweating his piecers and scavengers.²⁶ Moreover, so long as this regime of production politics did not inhibit changes in the labour process, it was also in the interests of factory managers wishing to contract out the risk and responsibility for direct control over work. In England, at least, entrepreneurs in the beginning did not have the inclination and later did not have the resources (in cotton spinning) to impose a system of market despotism.²⁷

There is a broad measure of agreement that during the period 1790–1820, cotton spinning and other trades frequently relied on the family for recruitment, division of labour, and supervision. Most of the early trade union regulations among spinners restricted the recruitment of assistants to a narrowly defined set of kinship relations.²⁸ But after 1820 technological changes — in particular, the rapid expansion of the number of spindles — increased the ratio of piecers to spinners, tending to break up the family as the organizing unit of production. According to Smelser, with partial confirmation from Thompson and Stedman-Jones, this disruption of the family was a major impulse behind the struggles of the factory operatives in the 1830s.²⁹

Major strikes, part of whose aim was to defend the monopoly of the male spinners against displacement by women, broke out in 1818, 1824 and 1829.³⁰ John Doherty, leader of the Manchester spinners and architect of the Grand General Union and the National Association for the Protection of Labour, condemned the employment of women as spinners: 'In the first number of the *Journal*, on 6 March (1830), a letter was printed from "a poor man, a spinner with a wife and five children", who had lost his employment at 25 to 35s per week. Doherty commented that practice was harmful both to females, who must perform fatiguing labour in unwholesome conditions which made even male spinners old men by forty, and also to the workmen who were thereby supplanted. Thus, their natural roles were reversed, through the avarice of greedy employers, and "the miserable father has to take the place of the mother", looking after the children at home instead of providing for them at work."³¹ The defence of patriarchy — 'natural roles' — is conducted as the defence of a family wage, the preservation of morals and the protection of women. What is good for patriarchy is good for all, and indeed there are definite material interests which may bind women to patriarchy.³² Just as the spinners were successful in maintaining their monopoly against the encroachment of women, they were also able to restrict the work of piecers to avoid being usurped during turnouts.

The patriarchal regime not only directly shaped production

politics — that is, struggles confined to the sphere of production. It also stamped itself on the wider struggles in the realm of the state. The factory movement — the struggles for a shorter working day — showed how class interests came to be shaped by production politics. Although the ten-hours movement was presented as a drive for the protection of women and children, such protection was the most effective way of reducing the hours of men under a patriarchal regime. In a period of laissez-faire, men were held to be free and responsible agents who had no need of legislative protection, whereas women and children were dependants who did have such a need. The Factory Act of 1833 prohibited the work of children under the age of nine, while those aged between nine and thirteen were restricted to eight hours, plus two hours of education. The Short Time Committees of the operatives regarded the 1833 act as a major defeat, since children could now be worked in relays so that the hours of spinners remained the same or became even longer. Spinners and employers connived in the violation of the act, continuing to work children longer hours and falsifying their ages. In other words, when the male spinners were not successful in reducing their own hours, they did not take advantage of the legislation to reduce their children's hours. Indeed, in 1835 operatives began campaigning for a twelve-hour day, which would have *increased* the working hours of children and young adults, in order to place an upper limit on their own hours.³³ What was at stake in these struggles for the equalization of hours of men, women and children was the patriarch's control over production — more specifically, the protection of patriarchal apparatuses of production.

We therefore see, first, how operatives sought to defend rather than transform the existing patriarchal factory regime and, second, how that defence was carried into the wider political arena. This relatively unmediated relationship between production politics and state politics was facilitated by the rudimentary form of civil society, in particular the underdeveloped party system which excluded direct representation for the working classes.

3. Lancashire: From Patriarchy to Paternalism

In order to undercut the control exercised by spinners through the patriarchal regime, employers sought to perfect a fully automatic mule.³⁴ In 1832 Roberts overcame a number of technical problems to produce the first self-actor. Although some employers attempted to introduce direct control through the 'multi-pair' system, in which an overlooker managed six to eight pairs of mules tended by piecers, their

attempts were unsuccessful.³⁵ Spinners, or, as they came to be known, minders of the self-acting mules, did not struggle so much against the new machinery, which brought in its train deskilling and lower wages, as against any attempt to undermine the system of inside contracting whereby they controlled the recruitment, payment and direction of their piecers.³⁶

How was it that in England the system of inside contracting did not give way to direct managerial control, to market despotism, as it did in other countries? During the 1830s and 1840s, when the self-actor was first introduced, the minder-piecer system was left intact by virtue of the weakness of capital, divided by competition on one side and the strength of the spinners' organization on the other.³⁷ It was also in management's interest to maintain a patriarchal regime in order to minimize risks and maximize supervisory discipline, particularly as the self-actor was far from a perfected machine and was introduced only gradually. In 1842 minders and spinners consolidated themselves into the Association of Operative Spinners, Twiners and Self-Acting Minders. Although it lasted only a few years, this association led the way to subsequent powerful unionism and the successful defence of the privileged status of spinners and minders through restriction of the supply of labour.³⁸ In most Lancashire cotton towns, following the bitter confrontation during the Preston strike of 1853, the consolidation of wage lists laid the foundation of a relatively stable class compromise, distinguishing this new unionism from the radical movements which had sought to extend direct control over production.³⁹ This closed unionism of the spinners and minders was very different from the earlier open unionism of the power-loom weavers, who had fought for amelioration not on exclusivist but on inclusivist principles, through collective bargaining, strikes and legislation. It was the entrenchment of restrictive closed unionism that managed to stifle the growth of open unionism until it burst forth in the 1890s.⁴⁰

The industrial unionism that emerged in the mill towns of Lancashire after the mid-century, dominated by the sectionalism of the spinners and minders, was part and parcel of a new paternalistic production politics. 'A conciliatory attitude professing the identification of the interests of employer and operative, was the mark of all cotton trade unionism in these years.'⁴¹ The bedrock of the new production politics, according to Joyce, was the completion of the real subordination of labour to capital in virtually all the major processes of the cotton industry. The elevation of the minders of the self-acting mule to 'craft' status was not based on technical skills, and the retention of the system of inside contracting should not obscure the

degree to which they had relinquished control over production, if not over their piecers and their recruitment. Cohen offers a complementary perspective in which the minder's real subordination in the factory labour process was compensated by a shift in his primary responsibility from that of an operative to that of a supervisor.⁴² This elevation to a position of authority contributed to the minders' conciliatory attitude toward employers.

Centralization and concentration of the Lancashire cotton industry produced a number of large employers who had weathered the storms of earlier competition and crises and gained some control over anarchic markets.⁴³ Moreover, the prosperity of the third quarter of the nineteenth century permitted certain guarantees of material well-being for the operatives. In many cotton towns the masters had been established for many years and now became a symbol of their community. Their authority and influence permeated not only public life but also the day-to-day existence of their hands beyond as well as within the factory. Although factory owners rarely controlled more than a minority of operative housing, they exercised their influence by constructing a communal leisure life around the factory through the erection of swimming baths, day schools, Sunday schools, canteens, gymnasias, libraries and, above all, churches. There were local sports events, trips to the countryside and workers' dinners at the master's residence. There were public ceremonies and holidays to mark marriage, birth and death in the master's family as well as to celebrate his political victories.⁴⁴ In this way employees came to identify with the fortunes and interests of their employer. What industrial conflict there was, particularly strikes, had a ritual, pacific quality.⁴⁵

The emerging paternalism was rooted in workers' dependence on a specific employer. This was reinforced by the employment of more than one member of the family in the same mill. According to Joyce, the family became a potent instrument of incorporation and deference in many of the mill communities.⁴⁶ Rather than exhibiting a linear differentiation, as claimed by Smelser, the family was now *reconstituted* within the context of paternalism. Even in power-loom weaving, which had long been the preserve of women operatives, a new patriarchy was organized and harnessed to a wider paternalism. 'Though operative employment of children in weaving existed before the 1840s it seems to have been limited in extent. The convergence of work and home roles was crucially facilitated by technological improvements, which meant that the number of looms that could be worked by the single operative increased in the 1840s. It was in that decade that the use of weavers' assistants, paid directly by the weaver

as the piecer was by the spinner, increased enormously to meet the increased work load.⁴⁷

The family buttressed an overweening paternalism which reconstructed the mill community under the unitary authority of management, extending both rights and obligations to the hands. Contrasting paternalistic styles developed according to whether the master was Whig or Tory, Anglican or Non-Conformist.⁴⁸ In return for 'welfare' provisions, the hands were expected to render avid allegiance to the master's church and party. Finally, the rise of paternalism was accompanied by a new entrepreneurial ideology which replaced employers' earlier denial of responsibility for the poor with their leadership of a moral community shared by master and operative alike.⁴⁹

There were important exceptions to the new paternalism. First, a distinction should be drawn between small and large employers. The former, being less able to afford the 'neo-feudal' paternalism of the local 'baron', tended to establish more arbitrary and personalistic factory regimes. In Oldham, the heartland of the limited company, we find both smaller mills and the absence of employer identification with the community. Paternalism never developed there as it did in Blackburn, Ashton, Preston and Bolton. In Burnley, a town of new cotton wealth, class domination was not softened by the legacy of a common historical identity binding employers and employees. In the big cities such as Manchester and Liverpool it was not possible to carve out a community insulated from the world outside. In the last instance paternalism always rested on labour's real subordination to capital in the labour process, so that in Yorkshire, where mechanization had proceeded more slowly and mills were smaller, paternalism was weaker and independent labour movements were correspondingly stronger.⁵⁰

We can now summarize the importance of the transformation of the factory apparatuses for the rise and fall of working-class militancy among cotton operatives in Lancashire. Under the patriarchal regime the family secured considerable autonomy from employers, whereas under the paternalistic regime the family was shaped, regulated and subjected to close surveillance by employers. From government by the family we move to government through the family. Community also lost its autonomy, so that from a bastion of resistance it became a vehicle of domination. Under the patriarchal regime struggles burgeoned from the workplace into the wider political arena, whereas the paternalistic regime contained and regulated struggles within narrow limits. The militant defence of patriarchal production appara-

tuses was superseded by a distinctive working-class passivity in the Lancashire cotton areas in the second half of the nineteenth century. To be sure, other factors, such as the nature of the economic crisis facing the cotton industry and the form of state politics,⁵¹ also contributed to the changing character of working-class struggles. But changes in the form of factory regime are sufficient to explain the essential shifts in the interests, capacities and, as a result, struggles of the leading sector of the labour force — the spinners.

4. New England: From Paternalism to Market Despotism

We have seen that market despotism was absent from precisely the process of production where Marx anticipated that its conditions would be most readily realized. In the transition from the throstle to the mule we found a correspondence between changes in the labour process (from real to formal subsumption of labour) and changes in factory regime (from company state to patriarchal despotism). The second transition, to the self-acting mule, highlighted the influence of market forces in shaping factory apparatuses. Thus, the change from formal to real subsumption of labour was accompanied by the concentration and centralization of capital, so that instead of market despotism we find a paternalistic regime replacing patriarchal despotism. The remainder of this chapter will try to demonstrate that, even together, the labour process and market factors do not wholly determine the form of factory regime; we must also consider the character of proletarianization and state intervention.

The combined and uneven character of capitalist development — that is, the timing of industrialization in relation to the history of world capitalism and the combination of the capitalist mode of production with pre-existing modes — sets the stage for the development of different factory regimes. We can see this already by crossing the Atlantic. Borrowing technology from England, the United States cotton industry skipped many of the drawn-out stages from the pre-industrial putting-out system and began its career with the adoption of Arkwright's water frame. Throstle spinning enjoyed a dominance in the United States that it never achieved in England: by 1811 the English industry already had twelve mule spindles for every throstle spindle, while in the United States mule and throstle spindles were approximately equal in number. The reasons for the difference have to do with England's position as an exporter of fine cotton cloth, which the throstle could not produce; the use in England of cheaper

cotton, which required more sophisticated technology; the availability in England of skilled artisans who could operate the mule; and the mule's greater efficiency in the context of factory costs in England.⁵² Moreover, it was only two decades after the common mule had been introduced into New England that it was replaced by the self-actor. The same transition took over forty years in England.⁵³ Boston capitalists and their mill agents could therefore adopt machinery developed abroad without facing the resistance encountered in Lancashire, rooted in entrenched legacies of past forms of work organization and production politics.⁵⁴

The impetus to mechanization came from the conditions set by the surrounding economy. The New England factory system developed in symbiosis with a viable small-commodity production and subsistence farming, so that throughout the region skilled labour was scarce and expensive. This prompted the introduction of machinery that would be less reliant on skilled workers than in England, where skilled labour was more abundant,⁵⁵ and where the welding of pre-industrial and extra-industrial resources into collective organization presented a powerful obstacle to mechanization. In New England collective organization was both less urgent and more difficult, as workers could express their dissatisfaction by quitting. This in turn further encouraged deskilling, to reduce learning time.⁵⁶ In short, it was both more feasible and more profitable for New England mill owners to assume direct control over the organization of work.⁵⁷

How they did this depended on the supply of capital and of *unskilled* labour. In southern New England and states to the south, what is known as the Rhode Island system emerged. There mill owners facing capital shortage managed to recruit the labour of poor farm families. This system was nearer the English pattern of fierce competition among small-scale firms, well suited to the production of a variety of fine and coarse cloths. Although the Rhode Island system began with a patriarchal regime, this soon dissolved into market despotism, with overlookers directing piecers.⁵⁸ In northern New England, however, the distinctive Waltham system developed to supply the power loom and a mass market for coarse but durable fabrics. Here capital abundance encouraged firms to expand and introduce economies of scale.⁵⁹ Rather than employ family labour, mill owners drew out single female operatives from the surrounding region, and a very different transition in factory regimes took place: from paternalism to market despotism. This Waltham system calls for close examination, because it underlines the influence of different patterns of proletarianization on the political apparatuses of production. The account

will draw on Thomas Dublin's study of the Lowell mills,⁶⁰ which set the pattern for the region.

Financed by a small group of Boston capitalists, the Lowell mills opened their doors in the 1820s. They turned to the daughters of New England farmers for their labour. Wage labour and prospects of a new independence induced single women to leave their homesteads before marrying. Certainly their families did not require the extra income, and the women themselves decided how to dispose of their earnings. They lived in subsidized company boarding houses under the strict supervision of matrons responsible to mill management. The boarding houses tied workers to the mill and subjected them to 'moral policing'. Within the mills there was considerable opportunity for arbitrary tyranny to be exercised by male overseers. The employer's power of dismissal was absolute; if a woman left of her own accord, she was blacklisted and excluded from all the mills in the area.⁶¹

In the 1840s the Lowell mills began to lose their monopoly of the most advanced technology. Increased demand for cloth and competition from other firms led to falling prices. On the shopfloor the women experienced speed-ups and stretch-outs along with rate cutting. The labour process itself underwent changes as the self-acting mule replaced the throstle. According to one estimate, output per worker increased by almost forty-nine per cent between 1836 and 1850, while daily wages increased by only four per cent.⁶² As conditions in the mills deteriorated, the 'freeborn' daughters left and management recruited its labour force from among the influx of immigrants, particularly Irish but also French Canadian, who arrived in New England in the late 1840s. There had always been immigrants in Lowell, but they were allowed to join the mills only when the owners, facing stiff competition, required a more tractable labour force. Whereas only 3.7 per cent of those employed at Hamilton Manufacturing Company in 1836 were foreign born, by 1860 the figure was 61.8 per cent.⁶³

Mill management adopted new strategies consonant with changing technology and the intensification of labour on one side and the changing labour force on the other. Originally, low wages had been based on the maintenance costs of the single female worker. Now they were based on the family labour system, in which children were expected to contribute substantial income. Thus, we find that the proportion of school-age children at Hamilton rose from 2.3 per cent of the labour force in 1836 to 6.5 per cent in 1860. Adult and school-age children together contributed an average of 65 per cent of family earnings in 1860, and among the many female-headed house-

holds the figure was 80 per cent.⁶⁴

The transformation of the labour force, in particular its pattern of reproduction, invited the transformation of the factory regime. The single women were controlled through a paternalistic regime, reflecting their independence, which rested on their ability to return to their homesteads. This regime was very different from the Lancashire paternalism, which directly regulated the renewal as well as the maintenance of the labour force, governed through the family rather than without it, and arose in response to the organized strength of cotton workers (in particular the spinners), the declining competition among firms, and the real subsumption of labour to capital. However, the Irish and French Canadians, unlike the Yankee daughters but like the Lancashire operatives, were cut off from any subsistence economy. They were entirely dependent on wage labour for their survival. But unlike their fellow workers in Lancashire, they did not have a powerful collective organization with which to resist untrammelled domination at work. They were not mobilized around a system of inside contracting. Nor had they built up a system of wage lists as a guarantee against wage cutting. On the contrary, they were hired and fired at the whim of the overseer, and piece rates were set unilaterally by mill managers acting in concert. Here indeed we find an example of Marx's market despotism.

The political apparatuses of production also shaped patterns of struggle. The daughters of Yankee farmers built up a solidary community around their boarding houses, buttressed by republican traditions. They challenged wage cuts with strikes and actively participated in the ten-hours movement. When these failed, they left the mills. From the beginning the Irish and French Canadians faced a coercive regime which divided workers from one another. Lacking alternative sources of livelihood and often coming from even worse conditions, they accepted their lot in relative peace.

5. Russia: Migrant Labour and the Company State

Changes in nineteenth-century Lancashire cotton spinning suggested that market factors and the character of labour's subordination to capital in the labour process set limits on the form of apparatuses of production — limits indicated by the transition from the company state to patriarchal and then paternalistic regimes. The comparative case of New England drew attention to a casual factor held constant and therefore unidentified in the Lancashire studies: the effect of only partial separation of workers from the means of sub-

sistence, reflected in the transition from paternalistic regime to market despotism. Similarly, the Russian factory regimes will highlight a factor which, because it was uniform, the studies of both Lancashire and New England took for granted: namely, the intervention of the state. Whereas in both Lancashire and New England the state intervened only 'externally', to uphold the self-regulation of capital accumulation, we shall see that in Russia the state not only regulated the reproduction of labour power but actually constituted the factory apparatuses. But first we must examine the impact of the labour process on factory regimes in Russia.

In Russia, to an even greater extent than in the United States, late development had the consequence of reorganizing stages of industrialization.⁶⁵ The cotton industry came particularly late to Russia, expanding most rapidly in the first half of the nineteenth century. Calico printing of imported cloth was the first process to take root, followed by the weaving of cheap imported yarn; last to arrive was spinning. Unlike the state enterprises in woollen and iron production which deployed serf labour, the cotton industry, developing under foreign sponsorship, hired wage labourers from the beginning, although in relation to the land these labourers remained serfs. Weaving began in large factories but moved into cottages as soon as workers had mastered the handloom. The putting-out system developed out of, and at the expense of, the factory so long as technology was relatively simple.⁶⁶ With the power loom, weaving re-entered the factory, but only slowly. Cotton spinning, on the other hand, only really began in the 1840s, when England lifted its prohibition on the export of the self-acting mule. Thus, spinning was factory-based from the beginning and never went through the putting-out phase.

The rhythm of late development also shaped the relative standing of occupations within the textile industry: 'The weaver's trade was considered to be a more skilled, prestigious, and (more problematic) highly paid profession than spinning.'⁶⁷ The Russian government even referred to weavers as a labour aristocracy, but Zelnik provides the necessary caution: 'Of course the Kränholm weavers never functioned as independent artisans, and the discretion content of their work was minimal, limited almost entirely to questions of pace. But combined with the difficulty of gaining access to their ranks and their higher level of education . . . the small degree of autonomy that the weavers could enjoy in the early years of the factory's existence elevated them in the eyes of their fellow-workers'.⁶⁸

Although still weak, the artisan traditions were stronger in weaving than in spinning, and contributed to the relative standing of the two

occupations in Russia. This hierarchy was the reverse of that found in England, where factory spinning emerged from an artisanal past and retained its craft status despite deskilling, while the greater discontinuity between handloom and power-loom removed the artisanal legacy and craft status of the English weaving operative. Whereas in England spinning continued to be dominated by men and weaving by women, by the end of the nineteenth century the opposite gender division of labour prevailed in Russia.⁶⁹

Although differences in production apparatuses can in part explain the differential involvement of weavers and spinners in collective protest, their common situation is more striking. The adoption of advanced techniques, often under English or German management, established the real subsumption of labour to capital for both and the basis of a common despotic order. The character of that despotic regime was shaped by two forms of state intervention: the orchestration of the flow of labour between capitalist industry and feudal or peasant economies, and the direct constitution of a company state by the central state. We shall deal with each in turn.

Emancipation left the majority of peasants materially worse off than before. Not only did they have to pay heavy redemption payments for their allotments but, for the most part, these were inadequate to yield even a bare subsistence.⁷⁰ Overpopulation, poverty and tax arrears mounted during the last four decades of the nineteenth century, so that villagers were increasingly compelled to supplement subsistence production with independent, non-agricultural domestic production or by hiring-out their labour to industrial employers or former landlords. The emancipation legislation compounded the strangulation of the peasantry by continuing to make it extremely difficult to leave the village permanently for the city.

To achieve only limited urbanization, the state shored up the village commune (*obshchina*), extending its powers and responsibilities. It was responsible for the collection of state taxes and the annual redemption payments. The village council (*mir*) would sometimes impose forced labour on those in the community who did not discharge their financial obligations. It was impossible to sell one's land unless all tax arrears and over half the principle debt on the state redemption loan had been paid up. As if that were not enough, individuals could not permanently leave the village without the consent of the head of the household, and where the *mir* had powers to redistribute land in accordance with available family labour, parents were unwilling to release their children for fear of losing land. These 'repartitional communes' included the greater part of the peasant

population and of the allotment area of the country.⁷¹ The state also empowered the *mir* to control the issuing of internal passports, essential for any movement outside the village. The *mir* decided not only who should receive passports but also for how long, from six months to three years. A peasant found outside his or her village without a valid passport faced immediate deportation 'home'. As was understood at the time of the reform, 'the preservation of the *obshchina* meant substituting the bondage to the *mir* for the bondage to the *pomeshchik*.'⁷²

The passport system was only one aspect of the commune's long reach into the city. Like migrants to other urban settings, Russian peasants were often introduced to the city through kin, and their lives were circumscribed by village or regional networks and associations — *zemliaki* — which offered security, acted as recruiting agencies for jobs, and above all reinforced ties to the village.⁷³ However, recent studies suggest that skilled workers and artisans had much weaker ties to rural life than did the unskilled, who were not only newer to the city but also more likely to rely on the village safety-net to make up for low wages and vulnerability to dismissal.⁷⁴

What emerged, therefore, was a system of circulating labour migration in which the bulk of at least the unskilled workers retained a dual allegiance to land and industry, village and town. From the standpoint of capital, migrant labour made it possible to pay low wages that covered only the costs of maintaining single workers while they were employed. The costs of rearing new workers and supporting the old and infirm were borne in the *mir*: subsistence production subsidized capitalist profits. Yet the system of migrant labour was a two-edged sword. Workers' ability to return to their villages gave them a certain independence and posed the problem of retaining their allegiance to the factory. Workers were housed in 'dormitory cubicles' or 'common barracks' to facilitate constant surveillance and military discipline, and they were subjected to an elaborate system of factory police, company stores, piecework, fines, and discretionary renewal of contracts every six or twelve months. However, these could be used as instruments for the coercive extraction of effort only so long as workers could not 'exit'. The state worked hand in hand with the factory regime to regulate labour's mobility through the passport system. Workers could quit before the expiration of their contracts, but only at the risk of losing the passport which allowed them to move around and seek a new employer.⁷⁵

A comparison of Moscow and St Petersburg illuminates the combined influence of the labour process and labour migration on the

factory regime. Since the cotton mills began with an advanced technology and the real subsumption of labour, operatives had few resources with which to resist the depredations of the company state. Accordingly, the factory regimes of the cotton mills tended to be more coercive and more isolated from the world around them than were those of the metal fabrication industry, where mechanization was less advanced at the turn of the century. Although the industrial composition of both cities was mixed, the concentration of textiles in Moscow and of metal fabrication in St Petersburg is one factor explaining the predominance of the company state in the former rather than the latter. But another factor is also important: Moscow had a long history of symbiosis with the rural hinterland, so that circulating migration was more common there than in St Petersburg, where industrial development came later, was more abrupt, and drew on workers who were more skilled and from further afield. The looser relationship between community and work and between city and countryside — reflected in higher wages, more skilled workers, and less despotic regimes — contributed to the greater solidity of the St Petersburg protest movements after the turn of the century.

Yet a third factor led to the different factory regimes in the two cities: namely, the direct regulation of production apparatuses by state apparatuses. St Petersburg capitalists were more dependent on the central state (and foreign finance) than were Moscow capitalists, whose independence fostered autonomous company states. Thus St Petersburg capitalists, with their more capital-intensive technology, higher wages and shorter working hours, were keener supporters of factory legislation, hoping to eliminate competition from more labour-intensive firms that employed more women and children, for longer hours and at lower wages. The Moscow capitalists often fell into the latter category, and fought against state regulation of factory regimes.⁷⁶

Throughout the second half of the nineteenth century, state regulation of factory administration was the subject of bitter and continual conflict not only outside but also within the state. Thus the turn of the century brought the climax of protracted struggles between the ministry of finance, which tended to defend the capitalists' 'right' to govern their workplaces without outside interference, and the ministry of the interior, which was committed to regulating factory despotism. The state interspersed repression with occasional concessions, but always increased its intervention. On the one side, strikes, for example, were never a private affair between capital and labour, but a question of public order. They became the occasion for

ritual affirmation of the state, whose might would be mercilessly deployed against helpless workers.⁷⁷ On the other side, legislation, particularly the 1885 law, did attempt to establish a code of conduct for capital as well as a written contract and paybooks for workers. Factory inspectors were appointed to enforce the law; but since they had neither effective sanctions over employers nor the confidence of workers, they were largely unable to improve conditions.⁷⁸ More significantly, the 1886 legislation extended police surveillance of factory towns, bringing factory and state closer together.⁷⁹

When direct repression and factory legislation failed, the state began to impose its own factory apparatuses. After, and partly because of, the textile strikes of 1896 and 1897, the ministry of the interior encouraged the development of what has been facetiously labelled 'police socialism'. State-sponsored factory apparatuses were designed to give workers the opportunity to pursue economic grievances, in the hope that this would divert them from the clutches of the Social Democrats. The most famous of these experiments was the Zubatov societies, named after their originator Sergei Zubatov, appointed chief of the Moscow Okhrana in 1896. But state sponsorship of the Zubatov societies was not without its contradictions, as the secret police found themselves defending their organizations against recalcitrant factory directors.⁸⁰ Although Zubatov societies did appear in St Petersburg, there it was the Gapon Assembly that captured most attention and support from workers. Father Gapon, a disciple of Zubatov, was the inspiration and leader of the Assembly of the Russian Factory and Mill Workers, formed in 1903. In order to gain legal recognition the Gapon Assembly was presented as a mutual benefit society, but its organizers intended it to go beyond self-help to demand basic economic and civil rights for workers.⁸¹ From the beginning Gapon saw the assembly as a means of advancing its members' interests, rather than as a tool of state regulation. The Gapon Assembly had struck an uneasy relationship with the government when the dismissal of its members at the Putilov plant precipitated a confrontation with management. The conflict rapidly escalated from the specific grievance to demands for elementary economic and political rights, including an eight-hour day, a minimum wage, freedom of association, and legal protection for labour, which in turn led to the demonstration and massacre of Bloody Sunday and the ignition of the 1905 revolution.⁸²

In the decade leading to 1905, production politics and state politics became increasingly interwoven. The Zubatov societies intensified the presence of the state in the factory, while the Gapon Assembly

brought production politics into the public sphere. Instead of building confidence in the Czarist regime, the merger of the two forms of politics became a lightning rod for the massive uprising of 1905. Allowing workers to carve out a space for even such limited organizations could only fuel the momentum of struggles.

6. From the Satanic Mills to the Russian Revolution

How can we understand production as the site simultaneously of degradation and elevation, atomization and combination, isolation and association? That is the theoretical paradox with which this chapter began. The solution has been to distinguish the labour process from the political apparatuses of production. Whereas the former could account for domination and fragmentation, the latter could account for resistance and struggle. We have seen not only that the factory regime and labour process had independent effects on the formation of the interests and capacities of workers, but also that these two aspects of production varied independently of each other. In a series of historical and international comparisons we successively isolated four factors shaping factory regimes in the textile industry of early capitalism. They were, in ascending order of generality: market forces, the labour process, the reproduction of labour power, and the state. But how does this help us with our historical anomaly — that the militancy of English workers before 1860 was absorbed and turned in a reformist direction, whereas the Russian workers' struggles of 1905 grew into the revolutionary movement of 1917?

We have distinguished two modes of harnessing the family to accumulation under early capitalism. In the first, broadly English, pattern, the whole family is expropriated from access to the means of subsistence and becomes completely dependent on wage labour. The family wage is spread among a number of wage earners, and production relations are regulated by merging the family regime into the factory regime. In the second, which affected large segments of the Russian labour force, the family is split into two interdependent parts: the maintenance of the wage earner takes place at the site of production, while the renewal processes are organized by the rest of the family in the village. Subsistence production permits low wages, and production relations are regulated through the company state.

The different patterns of proletarianization are linked to different types of struggles. Thus, prior to 1850 in the leading sector of English industry male spinners sought to defend their patriarchal regime against the encroachment of capital. After 1850, in many parts of Lancashire, the patriarchal regime was replaced by a paternalistic

regime — that is, government through the family rather than by the family. The new regime effectively contained struggles within the parameters of production. In Russia, however, the company state fostered struggles for its dismemberment, in 1905 by artisans and skilled workers and in 1917 increasingly by skilled and unskilled workers in large enterprises.⁸³

The change in the centre of gravity over this period was due to the development of modern industry but also to the relationship between the state and factory regimes. In England the extension of political concessions to the working class during the second half of the nineteenth century — voting rights, trade union recognition, regulation of the working day, the repeal of the Masters and Servants Laws — tended to insulate production politics from state politics. In the same period, instead of extending concessions, the Czarist autocracy intensified repression and so furthered the fusion of state politics and production politics. In 1917, when the absolutist regime faced military and financial disaster and rising disaffection in both villages and towns, the crisis of the state was transmitted directly to the factory. There it established the destruction of the old and the creation of new political apparatuses. Management no longer had the crutch of the official and secret police, so workers could take into their own hands the regulation of production. Unwanted supervisors were carted out in the proverbial wheelbarrow, factory committees were established to oversee management and regulate the distribution of supplies, and workers' militias were formed as the coercive arm of the new factory regime. Not surprisingly, this transformation went furthest where the collapse of the state was felt most intensely: in the large state munitions factories.

At least in the beginning, direct workers' control of production was not inspired by anarcho-syndicalist visions but was often the only way to keep factories open. Although capital was initially prepared to make concessions, the escalation of the revolutionary movement in the middle of 1917 led it to counter with sabotage. Now the factory committees were forced to turn workers' control from a defensive measure into a more radical but still dimly perceived project of self-management. Moreover, as the economic crisis deepened, factory committees saw the necessity of central coordination; the fate of each depended on the fate of all. To the end the factory committees were ardent advocates of central planning. Indeed, in the first few months of the new regime they went further in this direction than Lenin himself, who was still optimistic about the potential of unfettered grassroots initiative.

The character of the factory committees was shaped by what they

replaced and by the workers they represented. Unlike the metalworkers of the Clydeside, those of Petrograd were not steeped in conservative and sectional traditions. They were skilled workers without craft traditions. Their opposition to dilution and deskilling, for example, was much weaker than that of their brothers in England, whose organizations had grown up organically with capitalism.⁸⁴ Moreover, the coincident appearance of craft and industrial unions after 1905 meant that the sectionalism so stressed by Turner in his analysis of trade union growth in England⁸⁵ was much weaker. To be sure, there were divisions between skilled and unskilled, hereditary workers and *chernorabochie*, men and women, old and young. But the primary allegiance of workers — skilled and unskilled alike — was to their factory.⁸⁶ Indeed, according to Goodey the factory committee was the most powerful institution in Russia at the end of 1917.⁸⁷ Far from being obstacles to revolutionary mobilization, factory committees were its foundation, with unskilled workers continually pushing the more skilled toward more radical solutions. The latter in turn sought to curb and channel the militancy of the newer workers.⁸⁸ Recent social history, therefore, amply demonstrates that the Bolshevik Party's success lay in its ability to *respond* to a working-class radicalism that was decisively shaped by the factory regime.

The factory committees prefigured a new variant of the relationship between production politics and state politics: 'The remarkable fact about the Russian Revolution is that for a few months workers' organizations managed to combine democracy with centralization in a way which avoided bureaucracy on the one hand and anarchy on the other.'⁸⁹ However, the factory committees were soon subordinated to the state, the party, and particularly the trade unions, for reasons that are still hotly debated. Was it made necessary by the workers' sectionalism and parochialism?⁹⁰ Or were the factory committees crushed because they posed a threat to the centralizing imperatives of the Bolshevik Party?⁹¹ Or did the more skilled workers who dominated the factory committees identify their own interests as the assimilation of those organs into a strong central state?⁹² Or can we attribute the strangulation of the factory committees, at least in part, to Leninist prejudices which portrayed workers' control as an infantile disorder, which reduced all politics to state politics and presented the new state as the guardian of the proletarian interest?⁹³ Whatever the explanation for the suppression of the factory committees, the Russian experience suggests that the installation of workplace democracy requires a corresponding transformation of state politics. As Rosa Luxemburg put it, 'With the repression of political life in the land as a

whole, life in the Soviets must also become more and more crippled'⁹⁴ — a view echoed a few years later in the Soviet Union by Alexandra Kollontai and the Workers' Opposition. But the inverse thesis may also hold — namely, that the successful transformation of the state can proceed only if there is also effective workplace democracy.

7. The Revolution Against 'Capital'

In December 1917, Antonio Gramsci described the Russian revolution as 'the revolution against *Capital*' — the repudiation of the canons of historical materialism, of the laws expounded by Marx that had anticipated the outbreak of socialist revolution in the most advanced rather than the most backward nations. Rather than reject *Capital*, I have attempted to reconcile it with the Bolshevik revolution by distinguishing between the labour process and its political regime. The factory regime shapes the struggles emerging from the point of production, resolving the theoretical paradox in *Capital* between an account of capital's unswerving dominance on the one side and of mounting resistance to that dominance on the other. Taking Marx's own example of the cotton industry, I have shown how its factory regime varies with both time and place according to the nature of the labour process, market forces, the reproduction of labour power, and the form of state. Furthermore, I have shown how the factory regimes that emerged in the most advanced industry in nineteenth-century England and in Russia in the early twentieth century were sufficiently different to explain the historical anomaly of English working-class reformism and the revolutionary spirit of Russian workers. In short, we do not have to abandon the point of production as the decisive arena for the formation of the working class.

But what does this theoretical innovation, the distinction between the labour process and production apparatuses, do for Marxism? First, and most obviously, the importance of political and ideological elements of production calls for at least a reconsideration of the classic distinction between 'base' and 'superstructure'. It is no longer possible to hold that the 'base' is the arena of objectivity, of ineluctable laws, while the 'superstructure' is the arena of subjectivity, of political action that translates inevitability into reality. Base *and* superstructure are both arenas of objectivity *and* subjectivity. Second, if we can no longer talk of laws of production, we must also rethink our conception of the state. Politics can no longer be reduced to state politics. Instead we find, for example, production politics, gender politics (in the family) and consumption politics (in the community). Politics is

defined first by its *arena* and only secondly by its *goal* or *function*. The state is still the decisive centre of power which guarantees all other political apparatuses. What is distinctive about state politics is its 'global' character: it is the politics of politics. But this arena conception of politics implies that we cannot study the state apart from its relationship to production politics, gender politics, consumption politics, and so on.

Third, we must revise our understanding of socialism. It is no longer sufficient to concentrate on the transformation of the apparatuses of the state; we cannot avoid the distinct problem of destroying and reconstructing the apparatuses of production. The reconstruction of the state can lead only to a species of state socialism. Collective self-management which invokes collective participation at the level of production as well as at the level of the state requires the transformation of both sets of apparatuses along with their interrelations.

Finally, we no longer burden the working class with the mission of emancipating the whole of humanity. Nor, in despair, do we cry farewell to the working class, abandoning it for any social movement that catches the public eye. Avoiding the fallacies of philosophical imputation and fickle empiricism, we have undertaken a *sociological* analysis of how the sphere of production, in particular the apparatuses of production, determine actual working-class interventions in history.

This leaves open several questions. What are the consequences of the transformation of production and/or state politics for other forms of politics, in particular gender politics? To what extent are capitalist forces of production, more particularly the capitalist labour process, compatible with collective self-management? Does collective self-management require a new technology, a new labour process? Can a system of collective self-management, which involves collective guidance in central as well as production arenas, reproduce itself? Or does it possess an inherent tendency toward bureaucracy or anarchy? Does it tend to collapse into capitalism or state socialism? In short, the concepts of production politics and production apparatuses force us to consider collective self-management as one specific form of socialism. Moreover, it is a socialism which is certainly not inevitable, and which may not even be possible for more than short periods of time. Finally, who will lead the struggle for such a form of socialism? I have left open the precise relationship of the working class, however defined, to socialist projects. The foregoing agenda emerged from a comparative study of the Russian revolution, focusing on the transformation of factory apparatuses, the rise and fall of factory committees, the

destruction of the Czarist state, and the subsequent trajectory of the Soviet state. But if the history of the Russian revolution raises these questions, it most certainly does not resolve them.

Notes

1. Three qualifications, one theoretical and two historical, are in order. First, I recognize that Marx, particularly in his later years, speculated on alternative routes to socialism. However, the only one he theorized — even if it was a flawed theorization — rested on the growing contradictions between private ownership of the means of production and socialized forces of production, which meant that the more mature capitalism became the more advanced was its contradiction. G.A. Cohen has recently clarified the premises and arguments of this position (in *Karl Marx's Theory of History: A Defence*, Oxford 1978). Second, I do not want to suggest that Russian workers made the revolution or were even its leading force. I am more interested in the fact that they became revolutionary in their deeds and their demands. Third, the contrast should not be overstated: English workers had their revolutionary junctures before 1850 and — among metalworkers, for example — after the First World War. Russian workers, on the other hand, are distinguished for their passivity before 1895 and after 1917. But the problem remains: how is it that English radicalism of the period before 1850 was subsequently absorbed, while the radicalism of Russian workers in 1905 deepened into a revolutionary movement in 1917? This third qualification makes nonsense of any simple essentialist or cultural explanation for the different trajectories of the two labour movements.

2. This is one of the paradoxes highlighted by Jean Cohen, *Class and Civil Society*, Amherst, Massachusetts 1982, especially chapters 2 and 6. Her critique of Marx leads toward a rejection of Marxism rather than its reconstruction.

3. In *The Revolutions of 1848*, pp. 79, 76.

4. *Capital* Volume 1, p. 929.

5. A. Rabinowitch, *The Bolsheviks Came to Power*, NLB, London 1976; R. Service, *The Bolshevik Party in Revolution: A Study in Organizational Change, 1917-1923*, New York 1979; and R.G. Suny, 'Toward a Social History of the October Revolution', *American Historical Review*, Vol. 88, no. 3, 1983, pp. 31-52.

6. W. Lazonick, 'The Subjugation of Labour to Capital: The Rise of the Capitalist System', *The Review of Radical Political Economics*, vol. 10, no. 1, 1978, pp. 1-31.

7. Edward Thompson, *The Poverty of Theory and Other Essays*, London 1978, pp. 247-62.

8. Thompson, *The Making of the English Working Class*; W. Sewell, *Work and Revolution in France*, Cambridge 1980; R. Aminzade, *Class, Politics and Early Industrial Capitalism*, Albany, New York 1981; A. Dawley, *Class and Community*, Cambridge, Massachusetts 1976; and H. Gutman, *Work, Culture and Society in Industrializing America*, New York 1977.

9. C. Calhoun, *The Question of Class Struggle*, Chicago 1982, especially chapter 4.

10. Victoria Bonnell, *Roots of Rebellion: Workers' Politics and Organizations in St Petersburg and Moscow, 1900-1914*, Berkeley 1984.

11. E. Shorter and C. Tilly, *Strikes in France 1830-1968*, Cambridge 1974; M.P. Hanagan, *The Logic of Solidarity: Artisans and Industrial Workers in Three French Towns, 1871-1914*, Urbana, Chicago and London 1980; B. Moore, *Injustice: The Social Bases of Obedience and Revolt*, White Plains, New York 1978; J. Foster, *Class Struggle and the*

Industrial Revolution, London 1974; and David Montgomery, *Workers' Control in America*.

12. *Capital* Volume 1, pp. 549-50.
13. *Ibid.*, p. 645.
14. *Ibid.*, p. 547.
15. *Ibid.*, p. 899.
16. S. Chapman, *The Lancashire Cotton Industry*, Manchester 1904, p. 53.
17. *Ibid.*, pp. 53-54.
18. Neil Smelser, *Social Change in the Industrial Revolution*, Chicago 1959, p. 185.
19. M. Morris, 'The Recruitment of an Industrial Labour Force in India, with British and American Comparisons', *Comparative Studies in Society and History*, no. 2, 1960, pp. 305-28.
20. Smelser, p. 105.
21. S. Pollard, *The Genesis of Modern Management*, Cambridge, Massachusetts 1965, p. 206.
22. Smelser, p. 121.
23. Isaac Cohen has culled the following figures, referring to 1833, from parliamentary papers. Males over eighteen constituted 35 per cent of employees in mule spinning and 10 percent in throstle spinning. Of working children under eighteen, 88 per cent were employed by operatives in mule spinning, whereas only 1 per cent were so employed in throstle spinning. The ratio of overseers to workers was 1 to 84 in mule spinning but as high as 1 to 14 in throstle spinning. 'Industrial Capitalism, Technology and Labour Relations', *Political Power and Social Theory*, no. 5, 1984.
24. The differences between the throstle and the mule parallel those between worsted and woollen production in the West Riding (P. Hudson, 'Proto-Industrialization: The Case of the West Riding Wool Textile Industry in the 18th and Early 19th Centuries', *History Workshop*, no. 12, 1981, pp. 34-61). Early worsted production was organized through a system of putting out. Domestic workers had access to only small and often infertile plots of land and so constituted for all intents and purposes a proletarianized labour force at the mercy of merchants. Here the early mills were run and financed by merchants, and a sizeable component of the labour force was made up of women and children with no connection to domestic production. In the woollen industry, by contrast, artisans themselves controlled production. They had much greater independence not only because they produced a complete product but also because they had access to considerable means of subsistence. Here the early mills were run by small manufacturers who often had been domestic workers themselves. The labour force was also dominated by such proto-industrial workers. As in throstle spinning, in worsted production there was a break between domestic and factory production, whereas in mule spinning and woollen production there was continuity. Although Hudson does not tell us, one would expect corresponding differences in the political apparatuses of production.
25. J. Donzelot, *The Policing of Families*, New York 1979, p. 50.
26. W. Lazonick, 'Industrial Relations and Technical Change: The Case of the Self-Acting Mule', *The Cambridge Journal of Economics*, no. 3, 1979, pp. 236, 247, 252. Marx had a great deal to say about child labour but little to say about the direct sweating of children and women by adult men. Instead he concentrated on the effects of displacement of men by women and children. 'Machinery, by this excessive addition of women and children to the working personnel, at last breaks the resistance which the male workers had continued to oppose to the despotism of capital throughout the period of manufacture' (*Capital* Volume 1, p. 526). Patriarchy in production is destroyed and all that the father can do is sell his wife and children. 'He has become a slave dealer'

(*ibid.*, p. 526). Moreover, the destruction of patriarchy lays the basis for a 'higher form' of the family: 'The capitalist mode of exploitation, by sweeping away the economic foundation which corresponded to parental power, made the use of parental power into its misuse. However terrible and disgusting the dissolution of the old family ties within the capitalist system may appear, large-scale industry, by assigning an important part in socially organized processes of production, outside the sphere of the domestic economy, to women, young persons and children of both sexes, does nevertheless create a new economic foundation for a higher form of family life and of relations between the sexes' (*ibid.*, pp. 620-21). Marx did not consider the possibility that capitalism could mobilize patriarchy in its own interest.

27. Lazonick, 'Industrial Relations and Technical Change'; Pollard, pp. 38-47; and Isaac Cohen, 'Workers' Control in the Cotton Industry: A Comparative Study of British and American Mule Spinning', *Labour History*, forthcoming. It would be worthwhile to look at the differences between small and large shops in cotton-spinning. There is substantial evidence that large manufacturers supported state-enforced factory legislation to undercut competition from smaller sweatshops, but I have not been able to discover much reliable information on corresponding variations in factory regimes, or the effect of such differences on the participation of workers in the factory movement. This is a topic for further research.

28. Smelser, chapter 9; M. Anderson, *Family Structure in Nineteenth-Century Lancashire*, Cambridge 1971, chapter 9; M. Edwards and R. Lloyd-Jones, 'N.J. Smelser and the Cotton Factory Family: A Reassessment', in N.B. Harte and K.G. Ponting, eds., *Textile History and Economic History*, Manchester 1973, pp. 304-19.

29. *The Making of the English Working Class*, pp. 222, 231, 373; G. Stedman-Jones, 'Class Struggle and the Industrial Revolution', *New Left Review*, no. 90, 1975, pp. 35-70. Because Smelser's analysis has been the focus of much controversy and because it intersects with the arguments of this chapter, a brief consideration of his critics is necessary. Building on the earlier essay by Edwards and Lloyd-Jones, Anderson offers the most detailed treatment (in 'Sociological History and the Working-Class Family: Smelser Revisited', *Social History*, no. 3, 1976, pp. 317-34). Anderson's claims are as follows. First, the changes from the family-based farmer-weaver system to family-based employment in the mills (absence of parents, father no longer wholly super-ordinate, father-son relationship shortened), looked at from the point of view of the spinner, were much greater than the changes of the 1820s and 1830s highlighted by Smelser. Second, spinners were in fact not usually drawn from the family-based farmer-weaver system, but were more likely to be former agricultural labourers and farm servants. Here the transition to the factory would have reunited the family, would have led to 'de-differentiation' rather than 'differentiation'. Accordingly, subsequent 'differentiation', to the extent that it occurred, would have been a return to the status quo ante. Third, again following on the work of Edwards and Lloyd-Jones, Anderson argues that even at the height of family-based employment it is unlikely that more than thirty per cent of piecers were co-resident kin of their spinners, so that any trend away from family employment over the period 1825-35 cannot have been as crucial as Smelser claims. Fourth, even if such a differentiation of the family was brought about by technological changes, it is not clear that this would lead spinners to struggle for reform, since their children would still be under their supervision, and thus their families would not be threatened with differentiation. Finally, Anderson claims that the struggles of the 1830s can be explained in terms of the attempt to maintain family incomes in the face of declining wages. Spinners wanted to employ their children for longer hours so as to maximize their earnings rather than to defend themselves against structural changes in the family. Kirby and Musson also claim that spinners' strikes in

this period are better understood as resistance to price cutting than as resistance to the 'differentiation' of the family (R.G. Kirby and A.E. Musson, *The Voice of the People: John Doherty 1798-1854*, Manchester 1975, pp. 147-48). These are important criticisms, underlining the fatal flaw in Smelser's analysis: his attempt to develop a supra-historical model — structural differentiation leads to protest which is ineffectual. In his concern for generality he fails (or, better, 'refuses') to specify the meaning of 'differentiation' and the particular interests at stake in the family. His model is so general, and therefore so vague, that it can always be shown to be both 'true' and 'false'. However, Anderson's criticisms could be met if Smelser were to delineate the significance of the family as a site of male domination (see Heidi Hartmann, 'Capitalism, Patriarchy, and Job Segregation by Sex', in M. Blaxall and B. Reagan, eds., *Women and the Workplace*, Chicago 1976, pp. 137-70) with a redistributive function (see J. Humphries, 'The Working-Class Family, Women's Liberation, and Class Struggle: The Case of Nineteenth-Century British History', *Review of Radical Political Economics*, vol. 9, no. 3, pp. 25-41). Of these two interests, male domination is the more fundamental, but its reproduction depends on certain material concessions to other members. Thus, Anderson is correct to point to the importance of maintaining the family income, but only as a means to patriarchy. We see that the transition to the factory under either of Anderson's models did not threaten patriarchy; but the increased number of piecers per spinner did pose such a threat by entailing that children would begin to earn more money than their fathers.

30. Smelser, p. 252; H.A. Turner, *Trade Union Growth, Structure and Policy*, London 1962, p. 142.

31. Kirby and Musson, p. 109.

32. See Humphries, op.cit.

33. Smelser, chapter 10; C. Driver, *Tory Radical: The Life of Richard Oastler*, New York 1946. William Reddy's account of the linen textile town of Armentières around the turn of the century ('Family and Factory: French Linen Weavers in the Belle Epoque', *Journal of Social History*, no. 8, 1975, pp. 102-12) also underlines the importance of the family as an integral unit of production. There it was the power-loom weavers who defended the patriarchal regime when technological changes threatened to reduce the number of apprentices. Through repeated strikes between 1899 and 1903, culminating in a general strike, the weavers managed to maintain the number of apprentices so that they could continue to hire members of their own families to assist them. Strikes by weavers effectively mobilized the community, but strikes by spinners had little support and petered out soon after they began. The explanation revolves around ties connecting community and work. In weaving, more than one member of the family was usually employed, so that technical changes threatened the family wage, whereas spinning was regarded as subsidiary employment and therefore less central to the family's stability. Reddy further notes that in the French cotton industry power looms were easier to run and female labour was employed from the beginning, just as it later displaced men in spinning. As I shall have cause to point out again, the labour process by no means uniquely determines the form of production apparatuses, but the latter are crucial in shaping class struggles. For a general sketch and periodization of French factory regimes (or 'forms of industrial discipline'), analysed as a response to rather than a determinant of struggles, see M. Perrot, 'The Three Ages of Industrial Discipline in Nineteenth-Century France', in J. Merriman, ed., *Consciousness and Class Experience in Nineteenth-Century Europe*, New York 1979, pp. 149-68.

34. H. Catling, *The Spinning Mule*, Newton Abbot 1970, p. 63.

35. Lazonick, 'Industrial Relations and Technical Change', p. 237.

36. Some of the most significant struggles toward the end of the nineteenth century

would be over the system of inside contracting rather than deskilling per se; see Craig Littler, 'Deskilling and Changing Structures of Control', in S. Wood, ed., *The Degradation of Work?* London 1982, pp. 122-45; and D. Clawson, *Bureaucracy and the Labour Process*, New York 1980. The debate between Hobsbawm and Pelling concerning the existence of a labour aristocracy in England revolves around the distinction between production apparatuses (stressed by Hobsbawm) and skill (stressed by Pelling).

37. Lazonick, 'Industrial Relations and Technical Change', p. 245; and Cohen, 'Workers' Control in the Cotton Industry'.

38. Lazonick, 'Industrial Relations and Technical Change', p. 246.

39. There had been numerous struggles over wage lists pre-dating the factory system, but wage lists in that era never achieved the widespread legitimacy, regional applicability and machinery for enforcement that they did in the third quarter of the nineteenth century.

40. Turner, pp. 139-232.

41. P. Joyce, *Work, Society and Politics*, New Brunswick, New Jersey 1980, p. 65.

42. Isaac Cohen, 'Craft Control, Immigrant Labour and Strikes: British Cotton Spinners in Industrial America 1800-1880', unpublished manuscript, 1983, p. 25.

43. G. Schulze-Gaevernitz, *The Cotton Trade in England and on the Continent*, London 1895, pp. 65-85.

44. Joyce, pp. 90-157.

45. Ibid., p. 68.

46. Ibid., pp. 111-16.

47. Ibid., p. 58.

48. Ibid., pp. 201-39.

49. Bendix, *Work and Authority in Industry*, pp. 99-116.

50. Joyce, pp. 76-79, 226. Joyce's rich account of factory politics follows in broad outline the classic work of Schulze-Gaevernitz who, like Marx before him, took the Lancashire cotton industry as capturing the features of the most advanced industries of the late nineteenth century. Unlike Marx, however, he saw centralization, concentration and mechanization leading to the incorporation of the working class. He shows that the more backward areas, such as Yorkshire and his native Germany, spawned a more radical politics than the peaceful and conservative industrial relations of the Lancashire cotton towns.

51. See Foster, *Class Struggle and the Industrial Revolution*.

52. See Cohen, 'Workers' Control in the Cotton Industry', and D.J. Jeremy, *Transatlantic Industrial Revolution: The Diffusion of Textile Technologies between Britain and America, 1790-1830s*, Cambridge, Massachusetts 1981, chapter 10.

53. See Cohen, 'Workers' Control in the Cotton Industry'.

54. The reasons for the more rapid mechanization of U.S. textile production and of U.S. industry generally have been the subject of a stimulating controversy sparked by Habakkuk's argument that labour scarcity led to the introduction of labour-saving machinery (H.J. Habakkuk, *American and British Technology in the Nineteenth Century*, Cambridge 1962). This has been disputed at a theoretical level by Temin, who argued that labour scarcity could not have had such an effect, and that the rate of interest on capital investments was more important (P. Temin, 'Labour Scarcity and the Problem of American Industrial Efficiency in the 1850s', *The Journal of Economic History*, vol. 26, no. 3, 1966, pp. 277-98). At a more empirical level, Earle and Hoffman have tried to unhinge Habakkuk's thesis by showing that there was an abundance of cheap unskilled labour in many parts of the country, even more so than in England (C. Earle and R. Hoffman, 'The Foundation of the Modern Economy: Agriculture and the Costs of

Labour in the United States and England, 1800-1860', *American Historical Review*, no. 85, 1981, pp. 1055-94). According to them, mechanization was the result of two processes: higher returns to capital (because of lower wages) led to higher rates of reinvestment, and the shortage of skilled labour led employers to introduce machinery operated by low-wage semi-skilled labourers. Finally, as Isaac Cohen has insisted, mechanization and direct control were also based on the collective weakness of the working class, skilled and unskilled alike (see 'Industrial Capitalism, Technology and Labour Relations').

55. R. Samuel, 'The Workshop of the World: Steam Power and Hand Technology in Mid-Victorian Britain', *History Workshop*, no. 3, 1977, pp. 6-72.

56. Jeremy, p. 214.

57. Lazonick, 'Production Relations, Labour Productivity, and Choice of Technique: British and U.S. Cotton Spinning', *Journal of Economic History*, no. 41, 1981, pp. 491-516.

58. See A. Wallace, *Rockdale: The Growth of an American Village in the Early Industrial Revolution*, New York 1978, pp. 177-80; Cohen, 'Workers' Control in the Cotton Industry'; C. Ware, *The Early New England Cotton Manufacture*, New York 1931, chapter 8; and Jeremy, pp. 210-12.

59. Jeremy, chapters 10, 11.

60. Thomas Dublin, *Women at Work*, New York 1979.

61. Ware, pp. 265-67; and C. Gersuny, 'A Devil in Petticoats' and Just Cause: Patterns of Punishment in Two New England Textile Factories', *Business History Review*, no. 50, 1976, pp. 133-52.

62. Dublin, p. 137.

63. *Ibid.*, p. 138.

64. *Ibid.*, pp. 172-74.

65. A. Gerschenkron, *Economic Backwardness in Historical Perspective*, Cambridge, Massachusetts 1966, pp. 119-42.

66. M.I. Tugan-Baranovsky, *The Russian Factory in the Nineteenth Century*, Homewood, Illinois 1970, pp. 171-214.

67. R. Zelnik, 'Kränholm Revisited, 1872: Labour Unrest on the Narva River and the Life of Vasilii Gerasimov', paper presented at the Conference on the Social History of Russian Labour, Berkeley 1982, p. 11.

68. *Ibid.*, p. 12.

69. R.E. Johnson, *Peasant and Proletarian*, New Brunswick, New Jersey 1979, pp. 17, 55. In *Labour and Scarcity in Tsarist Russia* (Stanford 1971, chapter 9) Zelnik offers an interesting account of the 1870 strike by cotton spinners at the modern Nevskii mill in St Petersburg. There we find a rudimentary system of inside contracting. Male spinners were supposed to deduct a fixed wage from their own piece-rate earnings to pay their helpers. The dispute arose from a long tradition in which helpers were paid for two or three holidays at Easter. The money came straight out of the spinners' own earnings. This particular April the spinners decided to buck tradition and to deduct a proportional amount from their helpers' wages for the time missed. However, always suspicious of the spinners' dealings with their assistants, the factory administration took it into its own hands to pay the helpers for their Easter holidays by deducting the whole amount from the spinners' earnings. Finding that their incomes were in any case low that month, the spinners demanded redress. Management refused and the spinners struck. Zelnik does not tell us how typical was this system of inside contracting, and, in a personal note, writes that the cotton industry has not been sufficiently researched for this question to be answered. One wonders whether it was imported with the English management. It is noteworthy that the spinners did not have the autonomy of their

English brothers. The foreman was continually interfering in their relations with their assistants and unilaterally deciding the distribution of tasks — something the English spinners would never have tolerated. Yet the spinners managed to prevent their helpers from entering the workshops during the strike — through force, persuasion, or sympathy? It also seems quite likely from the figures Zelnik cites that the wage differential between the helper and the spinner was less than in England, where, between 1823 and 1900, the self-acting mule-spinners' wages were never less than 221 per cent of their big piecers' (Hobsbawm, *Labouring Men*, p. 292).

70. Gerschenkron, 'Agrarian Policies and Industrialization: Russia 1861-1914', in H.J. Habakkuk and M. Postan, eds., *The Cambridge Economic History of Europe*, Cambridge 1965, vol. 6, part 2, pp. 741-42; T.H. Von Laue, 'Russian Labour between Field and Factory, 1892-1903', *California Slavic Studies*, no. 3, 1964, pp. 34-35.

71. G.T. Robinson, *Rural Russia under the Old Regime*, London and New York 1932, pp. 112-13.

72. Gerschenkron, 'Agrarian Policies and Industrialization', p. 753.

73. Zelnik's analysis of the memoirs of Semen Kanatchikov ('Russian Bebels: An Introduction to the Memoirs of the Russian Workers Semen Kanatchikov and Matvei Fisher, Part I', *The Russian Review*, vol. 35, no. 3, 1976, pp. 249-89) brings out the parental and communal pressures that might be brought to bear on migrant workers who attempted to turn their backs on the village. In 1897, 87 per cent of St Petersburg's textile workers with families maintained their wives and/or children in the countryside (Bonnell, p. 56). An 1899 survey of workers at the Emil Tsindel cotton mill reported that 94 per cent of the workforce of two thousand were peasants and over 90 per cent of male peasants possessed a land allotment (Johnson, p. 40). But one must be very cautious in inferring any continuing commitment to the village, as the average period spent in factory labour by these same workers was 10.4 years, and 56 per cent had fathers who had also been factory workers (D. Koenker, *Moscow Workers and the 1917 Revolution*, Princeton 1981, p. 50). Von Laue refers to another study, according to which '76 per cent of even the poorest peasants who had no land sent money home, 92 per cent of those with an allotment of up to three *desiatins*, only 62 per cent of those holding three to six *desiatins*, but again 91 per cent of those with plots of six *desiatins* and more' ('Russian Peasants in the Factory, 1892-1904', *Journal of Economic History*, vol. 21, no. 1, 1961, p. 65). Presumably such remittances indicate a continuing commitment to the village. Between 1904 and 1906 the government's agrarian policy underwent a volte-face. This was followed by the Stolypin reforms, enacted between 1906 and 1914, which encouraged peasant workers to consolidate their land, sell it, and leave permanently for the city. See Gerschenkron, 'Agrarian Policies and Industrialization', pp. 783-98; and Robinson, pp. 208-42.

74. Bonnell, pp. 52-57; Von Laue, 'Russian Peasants in the Factory', pp. 70-71; and S.A. Smith, *Red Petrograd*, Cambridge 1983, pp. 14-21.

75. It is interesting to compare the company state of the third quarter of the nineteenth century at Kränholm, then one of the biggest cotton mills in the world, with the company state of the copper mines of colonial Zambia before World War II. (See Zelnik, 'Kränholm Revisited'.) In both we find (1) 'colonial despotism', based on nationality in the one case and race in the other; (2) a regime with arbitrary powers to legislate and execute as well as to judge violations; (3) a juridico-police apparatus based on ethnic divisions among the workforce (nationality in the one case, tribal divisions in the other); (4) the election or appointment of worker representatives — elders — supervised by management and rejected and overturned by workers in times of conflict; (5) widespread use of fines and deductions, as well as the holding back of pay until completion of the contract; (6) physical punishment and arbitrary assaults on

workers by supervisors (although the Russian system of corporal punishment, beating and solitary confinement was absent in Zambia); (7) strict regulation of the movement of workers in and out of company premises; and (8) the company store, although this was less extortionate in Zambia. The colonial state and the absolutist state were actively involved in the regulation of the movement of labour but were reluctant to become entangled in industrial disputes unless they threatened law and order.

76. Tugan-Baranovsky, pp. 321-40; and Smith, *Red Petrograd*, p. 74.

77. G.V. Rimlinger, 'The Management of Labour Protest in Tsarist Russia: 1870-1905', *International Review of Social History*, no. 5, 1960, p. 245.

78. Rimlinger, 'Autocracy and the Factory Order in Early Russian Industrialization', *Journal of Economic History*, no. 20, 1960, pp. 82-87.

79. Rimlinger, 'The Management of Labour Protest in Tsarist Russia', pp. 231-37.

80. J. Schneiderman, *Sergei Zubatov and Revolutionary Marxism*, Ithaca 1976, pp. 145-55.

81. W. Sablinsky, *The Road to Bloody Sunday*, Princeton 1976, pp. 101-4.

82. *Ibid.*, pp. 143-271.

83. See Bonnell; L. Engelstein, *Moscow 1905*, Stanford 1983; and Smith, *Red Petrograd*. This interpretation has recently been challenged by Hogan ('Industrial Rationalization and the Roots of Labour Militancy in the St Petersburg Metal-Working Industry, 1901-1914', *Russian Review*, vol. 42, no. 2, 1983, pp. 163-69; and 'Russian Metal Workers and Their Union: The organization, composition, and leadership of the St Petersburg metal workers' union, 1906-1914', paper presented to the American Historical Association, San Francisco, December 1983). She argues that between 1906 and 1914 the membership composition of the St Petersburg metalworkers' union shifted, from workers with varied levels of skill employed in large mixed-production factories toward a more homogeneous group of skilled workers in medium-sized factories facing work rationalization in the form of scientific management and job dilution. Unlike skilled workers in England, for example, the St Petersburg metalworkers did not have the organizational resources to resist rationalization from within the factory. They were therefore driven into the wider political arena to defend their position, shedding their loyalty to the Mensheviks and embracing the Bolsheviks. In other words, the centre of gravity within the leading section of the workers' movement was shifting toward rather than away from the artisans and skilled workers.

However, the evidence for this argument is less than convincing. First, it is not clear how much 'rationalization' was actually implemented and how much was simply policy statement, intentions or managerial ideology. Second, Hogan finds it difficult to give a precise account of when and where rationalization in its different manifestations was introduced. Third, she does not link the outbreak of collective mobilization among the metalworkers to those spheres of production most seriously affected by rationalization. Fourth, her data show that there was some continuity in union membership. Although a minority, the old-timers may still have been largely responsible for the new direction of metalworker protest. Finally, by stopping at 1914 Hogan leaves open the relevance of her analysis for the unfolding of the revolution in 1917. Hogan's work nicely complements Haimson's classic papers, which point to the mounting, but unsuccessful, strike wave of 1912-14 as evidence against any simple view that the destabilizing effect of the war was the essential precipitant of revolution (L. Haimson, 'The Problem of Social Stability in Urban Russia 1905-1917 (Part One)', *Slavic Review*, vol. 23, no. 4, 1964, pp. 619-42; and 'The Problem of Social Stability in Urban Russia 1905-1917 (Part Two)', *Slavic Review*, vol. 24, no. 1, 1965, pp. 1-22). Like Haimson, Hogan insists that however important rationalization may have been in propelling metalworkers into the political arena, such processes have to be situated in a much wider

context when trying to explain the broader revolutionary momentum of 1917.

84. S.A. Smith, 'Craft Consciousness, Class Consciousness: Petrograd 1917', *History Workshop*, no. 11, 1981, pp. 42-45.

85. Turner, part 4.

86. Smith, 'Craft Consciousness, Class Consciousness'; but see also W. Rosenberg, 'Workers and Workers' Control in the Russian Revolution', *History Workshop*, no. 5, 1978, pp. 89-97.

87. C. Goodey, 'Factory Committees and the Dictatorship of the Proletariat (1918)', *Critique*, no. 3, 1974, pp. 27-48.

88. See Koenker, pp. 317-28; and Smith, *Red Petrograd*, chapter 8.

89. Smith, 'Craft Consciousness, Class Consciousness', p. 40.

90. Rosenberg, *op. cit.*

91. J. Keep, *The Russian Revolution*, New York 1976; O. Anweiler, *The Soviets: The Russian Workers, Peasants and Soldiers Councils, 1905-1921*, New York 1974; and M. Brinton, 'Factory Committees and the Dictatorship of the Proletariat', *Critique*, no. 4, 1975, pp. 78-86.

92. Goodey, *op. cit.*

93. C. Sirianni, *Workers' Control and Socialist Democracy: The Soviet Experience*, NLB, London 1983.

94. Rosa Luxemburg, *Rosa Luxemburg Speaks*, New York 1970, p. 319.